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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,241	07/13/2001	Hiroki Koyama	2282-0142P	8879
2292	7590	01/23/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			GRIFFIN, WALTER DEAN	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 01/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/889,241

Applicant(s)

KOYAMA ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,11,15,16 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,11,15,16 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

The claim objections and claim rejections under 35 USC 112, second paragraph, as discussed in paper no. 5 have been withdrawn in view of the amendment filed on October 31, 2003.

### *Claim Rejections - 35 USC §102/103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 5-8, 11, 16, and 19-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cash (4,430,203).

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The reference of Cash (4,430,203) discloses a process involving contacting hydrogen with a feed. The process involves contacting hydrogen with a feed and passing it through a first catalyst bed in the form of bed (10). Next, the reference teaches that the treated feed is passed to interspace 25 wherein hydrogen is added via lines (13) and (29) and gases are withdrawn via (28). See column 2, lines 25-45. The gases include hydrogen sulfide and ammonia. See column 2, lines 35-38. Suitable feeds include oils derived from tar sand and shale. Interspace (25) contains a distribution tray and a sieve tray. See column 2, lines 50-57. The treated feed passes to a second catalyst bed in the form of bed (22). See the figure.

The reference of Cash (4,430,203) succeeds at teaching a process with steps and apparatus corresponding to applicants' claimed initial feed/hydrogen contact, passing a feed through a first catalyst bed, contacting the feed from the first catalyst bed with hydrogen, and contacting the feed with a second catalyst bed. The reference's holding trays are considered to correspond to applicants' holding member limitations. The disclosure of a "sieve" tray is considered to meet applicants' packing material limitation because sieves are formed with packing material. In addition, space (25) is considered to function as a separation space because a gaseous product is separated from a liquid product exiting the first reaction zone. Cash's disclosure of heavy feeds is considered to encompass applicants' specifically claimed boiling point limitations. Since added hydrogen between stages flows downward with the feed through catalyst bed 2, it is considered to be co-current.

Also, applicants' intended use limitations do not further distinguish applicants' claimed apparatus over the applied reference. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate from a prior art

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apparatus if the prior art apparatus teaches all of the structural limitations. Ex Parte Masham, 2 USPQ 2d 1647 (Bd. Pat. App. & Int. 1987).

It is noted that the reference does not refer to the hydrogen contacting in between catalyst beds as "stripping" or "counter-current" contact. However, such hydrogen contacting with the processed feed between steps in conjunction with a vapor withdrawal is considered to inherently function as stripping because the same steps responsible for accomplishing stripping are performed (i.e., Contacting hydrogen with down coming hydrocarbon products to remove hydrogen sulfide and ammonia).

Applicants' process and apparatus are anticipated by the reference of Cash (4,430,203) because it discloses essentially the same process steps and apparatus components.

Also, applicants' stripping and hydrogen counter-current contacting would obviously be accomplished upon operating the process of Cash (4,430,203).

### *Claim Rejections - 35 USC § 103*

Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cash (4,430,203) as applied to claims 1-3, 5-14, and 16-19 above, and further in view of Graziani et al.(4,695,364).

See teachings of Cash (4,430,203) above.

It is noted that the holding tray disclosed by the reference of Cash (4,430,203) does not appear to have a hole.

The reference of Graziani et al.(4,695,364) is cited to illustrate the conventionality of a collection tray with a discharge hole. See column 10, lines 9-13.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a collection tray with a discharge hole in the process of Cash (4,430,203) because the reference of Graziani et al. (4,695,364) illustrates that collection trays with discharge holes are conventional. Applicants have not shown anything unexpected by replacing the tray of Cash with another conventionally known tray.

### *Response to Arguments*

The argument that stripping is not achieved in the process of Cash and is in the claimed process is not persuasive because Cash discloses in column 4, lines 1-12 that up to 100% of the vapors will be withdrawn and replaced by hydrogen. Cash also discloses that replacement hydrogen mixes with the downflowing liquid. Although Cash does not refer to this as stripping, it is certain that at least some components from the liquid are stripped by this hydrogen thereby reducing impurities in the liquid.

The argument that the Cash reference does not teach or suggest a means or a step for adjusting the necessary pressure for the stripping is not persuasive because adding hydrogen would necessarily control pressure.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

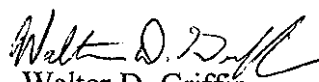
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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG

January 16, 2004